

LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claim 1 (Currently Amended) A handheld pipette including:  
a body portion having a vertical central axis longer than a horizontal central axis and shaped to fit in an operator's hand;

a nozzle portion extending from a point on said body portion and at a downward angle  $\theta$  of approximately  $60^\circ$  to  $80^\circ$  to the vertical central axis of said body portion; ~~and~~

at least one button located on the top of the body portion and operable by a thumb of the operator to effect aspiration and dispensing of ~~fluid through said nozzle portion~~ liquid, the at least one button being aligned with or substantially aligned with the vertical central axis of the body portion; and

a piston member operable for preventing the liquid from entering into the nozzle portion.

Claim 2 (Original) A handheld pipette as claimed in claim 1 where  $\theta$  is approximately  $70^\circ$  to said central axis.

Claim 3 (Original) A handheld pipette as claimed in claim 1 wherein said nozzle angle  $\theta$  is adjustable.

Claim 4 (Original) A handheld pipette as claimed in claim 1 wherein said nozzle angle  $\theta$  is such as to permit at least one of the operator's wrist, elbow and shoulder to be in a substantially neutral position when the pipette is performing a pipetting operation.

Claim 5 (Original) A handheld pipette as claimed in claim 1 wherein said nozzle is designed to have a tip mounted to the end thereof, and wherein said angle  $\theta$  for the nozzle is such that any tip mounting force is in a direction causing a major component of the force to be applied against and substantially perpendicular to a portion of the operator's hand grasping said body portion which is substantially between a second joint of the operator's fingers and a point slightly behind the operator's knuckles.

Claim 6 (Previously Presented) A handheld pipette as claimed in claim 1 including a hook extending from a point on said body portion which is sufficiently angularly spaced from the point from which said nozzle extends to permit the hook to fit over a selected portion of the operator's hand when the pipette is being held by the operator in a position of use.

Claim 7 (Original) A handheld pipette as claimed in claim 6 wherein said hook is adjustable to change at least one of the angle by which the hook is spaced from the nozzle, the height on the body portion for the point from which the hook extends and the angle of the hook relative to said central axis.

Claim 8 (Original) A handheld pipette as claimed in claim 6 wherein said hook is removably mounted to said body portion, said hook being replaceable with a hook of different size/shape to accommodate at least one of user preference and different hand sizes.

Claims 9-11 (Canceled).

Claim 12 (Previously Presented) A handheld pipette as claimed in claim 1 wherein said button is operated in a direction at a selected angle to said nozzle.

Claim 13 (Currently Amended) A handheld pipette as claimed in claim 1 wherein said button is ~~ergonomically~~ shaped to minimize contact pressure on the operator's hand when the button is operated.

Claim 14 (Currently Amended) A handheld pipette as claimed in claim 1 including a button on said body which controls ejection of a tip from said nozzle, said button being ergonomically shaped to minimize contact pressure on the operator's hand when the button is operated.

Claim 15 (Original) A handheld pipette as claimed in claim 1 wherein the position and angle  $\theta$  of the nozzle are such that an end of the nozzle adjacent said body portion is closely adjacent the index finger of the operator when properly held.

Claim 16 (Previously Presented) A handheld pipette as claimed in claim 1 wherein said body has a stable base permitting said pipette to stand upright on a surface.

Claim 17 (Currently Amended) A handheld pipette as claimed in claim ~~16~~ 78 wherein said nozzle is operable for receiving a the pipette tip and pipette parameters, including at least the angle  $\theta$  of said nozzle to an axis of said body portion and length of said tip affixed to said nozzle, are selected such that said tip does not touch said surface.

Claim 18 (Original) A handheld pipette as claimed in claim 1 wherein said body portion has a bottom which is removable at least in part to provide access to the pipette.

Claim 19 (Original) A handheld pipette as claimed in claim 1 including an adapter selectively mountable to said body portion, said adapter adjusting the size of said body portion to better fit operator hand size.

Claim 20 (Original) A handheld pipette as claimed in claim 1 including padding on at least a portion of said body portion.

Claim 21 (Currently Amended) A handheld pipette as claimed in claim 1 wherein portions of said pipette which come in contact with the operator's hand are ~~ergonomically designed~~ shaped to minimize contact pressure for the operator's hand during operation of the pipette.

Claim 22 (Currently Amended) A handheld pipette as claimed in claim 21 wherein portions of said pipette which come in contact with the operator's hand are ~~ergonomically designed~~ shaped so that contact pressure at no point on said pipette exceeds 14 psi.

Claim 23 (Original) A handheld pipette as claimed in claim 1 wherein said nozzle portion extends from a point on an upper section of said body portion.

Claim 24 (Original) A handheld pipette as claimed in claim 1 wherein said body portion is shaped and said nozzle portion is position such that when the pipette is held in an operating position, the nozzle portion is at an angle substantially perpendicular to the operator's forearm.

Claim 25 (Currently Amended) A handheld pipette operable for aspirating and dispensing ~~fluid~~ liquid including:

a body portion shaped to fit in an operator's hand;

a nozzle portion extending from a first point on an upper section of said body portion;

at least one button located on the top of the body portion and operable by a thumb of the operator to effect aspiration and dispensing of liquid, the at least one button being aligned with or substantially aligned with a vertical central axis of the body portion;

a piston member operable for preventing the liquid from entering into the nozzle portion; and

a hook extending from a second point on the upper section of said body portion, said second point being angularly spaced by an angle  $\Phi$  from said first point.

Claim 26 (Original) A handheld pipette as claimed in claim 25 wherein said hook is adjustable to change at least one of the angle by which the hook is spaced from the nozzle, the height on the body portion for the point from which the hook extends and the angle of the hook relative to a central axis of said body portion.

Claim 27 (Original) A handheld pipette as claimed in claim 26 wherein the angular spacing between said nozzle and hook is adjustable.

Claim 28 (Original) A handheld pipette as claimed in claim 25 wherein said hook is removably mounted to said body portion, said hook being replaceable with a hook of different size/shape to accommodate at least one of user preferences and different hand sizes.

Claim 29 (Original) A handheld pipette as claimed in claim 25 including an adapter attachable to said hook to

accommodate at least one of user preferences and different hand sizes.

Claim 30 (Currently Amended) A handheld pipette including:

a body portion having a vertical central axis longer than a horizontal central axis and shaped to fit in an operator's hand;

a nozzle portion extending from a point on said body portion and at a downward facing angle  $\theta$  to the vertical central axis of said body portion, said body portion being shaped and said nozzle portion being positioned such that when the pipette is held in an operating position, the nozzle portion is at an angle substantially perpendicular to the operator's forearm; and

at least one button located on the top of the body portion and operable by a thumb of the operator to effect aspiration and dispensing of ~~fluid through said nozzle portion~~ liquid, the at least one button being aligned with or substantially aligned with the vertical central axis of the body portion; and

a piston member operable for preventing the liquid from entering into the nozzle portion.

Claim 31 (Currently Amended) A handheld pipette including:



a body portion having a vertical central axis longer than a horizontal central axis and shaped to fit in an operator's hand;

a nozzle portion extending from a point on said body portion and at a downward facing angle  $\theta$  to the vertical central axis of said body portion, said body portion being shaped and said nozzle portion being positioned such that when the pipette is held in an operating position, any force applied to the nozzle is in a direction causing a major component of the force to be applied against and substantially perpendicular to a portion of the operator's hand grasping said body portion which is substantially between a second joint of the operator's fingers and a point slightly behind the operator's knuckles; and

at least one button located on the top of the body portion and operable by a thumb of the operator to effect aspiration and dispensing of ~~fluid through said nozzle portion~~ liquid, the at least one button being aligned with or substantially aligned with the vertical central axis of the body portion; and

a piston member operable for preventing the liquid from entering into the nozzle portion.

Claim 32 (Currently Amended) A handheld pipette operable for aspirating and dispensing ~~fluid~~ liquid including:

a body portion shaped to fit in an operator's hand; and  
a nozzle portion extending from a point on said body  
portion and at a downward angle  $\theta$  of approximately  $60^\circ$  to  $80^\circ$   
to a central axis of said body portion;

at least one button located on the top of the body portion  
and operable by a thumb of the operator to effect aspiration  
and dispensing of liquid, the at least one button being aligned  
with or substantially aligned with a vertical central axis of  
the body portion; and

a piston member operable for preventing the liquid from  
entering into the nozzle portion, wherein

said nozzle angle  $\theta$  is adjustable.

Claim 33 (Currently Amended) A handheld pipette operable  
for aspirating and dispensing ~~fluid~~ liquid including:

a body portion shaped to fit in an operator's hand;  
a nozzle portion extending from a point on said body  
portion and at a downward angle  $\theta$  of approximately  $60^\circ$  to  $80^\circ$   
to a central axis of said body portion;

at least one button located on the top of the body portion  
and operable by a thumb of the operator to effect aspiration  
and dispensing of liquid, the at least one button being aligned  
with or substantially aligned with a vertical central axis of  
the body portion;

a piston member operable for preventing the liquid from entering into the nozzle portion; and

a hook extending from a point on said body portion which is sufficiently angularly spaced from the point from which said nozzle extends to permit the hook to fit over a selected portion of the operator's hand when the pipette is being held by the operator in a position of use.

Claim 34 (Currently Amended) A handheld pipette operable for aspirating and dispensing ~~fluid~~ liquid including:

a body portion shaped to fit in an operator's hand;

a nozzle portion extending from a point on said body portion and at a downward angle  $\theta$  of approximately  $60^\circ$  to  $80^\circ$  to a central axis of said body portion;

at least one button located on the top of the body portion and operable by a thumb of the operator to effect aspiration and dispensing of liquid, the at least one button being aligned with or substantially aligned with a vertical central axis of the body portion;

a piston member operable for preventing the liquid from entering into the nozzle portion; and

a hook extending from a point on said body portion which is sufficiently angularly spaced from the point from which said nozzle extends to permit the hook to fit over a selected

portion of the operator's hand when the pipette is being held by the operator in a position of use, wherein

said hook is adjustable to change at least one of the angle by which the hook is spaced from the nozzle, the height on the body portion for the point from which the hook extends and the angle of the hook relative to said central axis.

Claim 35 (Currently Amended) A handheld pipette operable for aspirating and dispensing ~~fluid~~ liquid including:

a body portion shaped to fit in an operator's hand;

a nozzle portion extending from a point on said body portion and at a downward angle  $\theta$  of approximately  $60^\circ$  to  $80^\circ$  to a central axis of said body portion;

at least one button located on the top of the body portion and operable by a thumb of the operator to effect aspiration and dispensing of liquid, the at least one button being aligned with or substantially aligned with a vertical central axis of the body portion;

a piston member operable for preventing the liquid from entering into the nozzle portion; and

a hook extending from a point on said body portion which is sufficiently angularly spaced from the point from which said nozzle extends to permit the hook to fit over a selected

portion of the operator's hand when the pipette is being held by the operator in a position of use, wherein

said hook is removably mounted to said body portion, said hook being replaceable with a hook of different size/shape to accommodate at least one of user preference and different hand sizes.

Claim 36 (Currently Amended) A handheld pipette operable for aspirating and dispensing ~~fluid~~ liquid including:

a body portion shaped to fit in an operator's hand;

a nozzle portion extending from a point on said body portion and at a downward angle  $\theta$  of approximately  $60^\circ$  to  $80^\circ$  to a central axis of said body portion;

at least one button located on the top of the body portion and operable by a thumb of the operator to effect aspiration and dispensing of liquid, the at least one button being aligned with or substantially aligned with a vertical central axis of the body portion;

a piston member operable for preventing the liquid from entering into the nozzle portion; and

an adapter selectively mountable to said body portion, said adapter adjusting the size of said body portion to better fit operator hand size.

Claim 37 (Currently Amended) A handheld pipette operable for aspirating and dispensing ~~fluid~~ liquid including:

a body portion shaped to fit in an operator's hand;

a nozzle portion extending from a point on said body portion and at a downward angle  $\theta$  of approximately  $60^\circ$  to  $80^\circ$  to a central axis of said body portion;

at least one button located on the top of the body portion and operable by a thumb of the operator to effect aspiration and dispensing of liquid, the at least one button being aligned with or substantially aligned with a vertical central axis of the body portion;

a piston member operable for preventing the liquid from entering into the nozzle portion; and

padding on at least a portion of said body portion.

Claim 38 (Previously Presented) The handheld pipette as claimed in claim 30, wherein

$\theta$  is approximately  $70^\circ$  to said long central axis..

Claim 39 (Previously Presented) The handheld pipette as claimed in claim 30, wherein

said nozzle angle  $\theta$  is adjustable.

Claim 40 (Previously Presented) The handheld pipette as claimed in claim 30, wherein

said nozzle angle  $\theta$  is such as to permit at least one of the operator's wrist, elbow and shoulder to be in a substantially neutral position when the pipette is performing a pipetting operation.

Claim 41 (Currently Amended) The handheld pipette as claimed in claim ~~30~~ 79, wherein

said nozzle is designed to have a the tip mounted to the end thereof, and wherein said angle  $\theta$  for the nozzle is such that any tip mounting force is in a direction causing a major component of the force to be applied against and substantially perpendicular to a portion of the operator's hand grasping said body portion which is substantially between a second joint of the operator's fingers and a point slightly behind the operator's knuckles.

Claim 42 (Previously Presented) The handheld pipette as claimed in claim 30 including a hook extending from a point on said body portion which is sufficiently angularly spaced from the point from which said nozzle extends to permit the hook to fit over a selected portion of the operator's hand when the pipette is being held by the operator in a position for use.

Claim 43 (Previously Presented) The handheld pipette as claimed in claim 42, wherein

said hook is adjustable to change at least one of the angle by which the hook is spaced from the nozzle, the height on the body portion for the point from which the hook extends and the angle of the hook relative to said long central axis.

Claim 44 (Previously Presented) The handheld pipette as claimed in claim 42, wherein

said hook is removably mounted to said body portion, said hook being replaceable with a hook of different size/shape to accommodate at least one of user preferences and different hand sizes.

Claim 45 (Previously Presented) The handheld pipette as claimed in claim 30, wherein

said button is operated in a direction at a selected angle to said nozzle.

Claim 46 (Currently Amended) The handheld pipette as claimed in claim 30, wherein

said button is ~~ergonomically~~ shaped to minimize contact pressure on the operator's hand when the button is operated.



Claim 47 (Currently Amended) The handheld pipette as claimed in claim ~~30~~ 79, including

a button on said body which controls ejection of a the tip from said nozzle, said button being ~~ergonomically~~ shaped to minimize contact pressure on the operator's hand when the button is operated.

Claim 48 (Previously Presented) The handheld pipette as claimed in claim 30, wherein

the position and angle  $\theta$  of the nozzle are such that an end of the nozzle adjacent said body portion is closely adjacent the index finger of the operator when properly held.

Claim 49 (Currently Amended) The handheld pipette as claimed in claim ~~30~~ 79, wherein

said body has a stable base permitting said pipette to stand upright on a surface.

Claim 50 (Currently Amended) The handheld pipette as claimed in claim 49, wherein

pipette parameters, including at least the angle  $\theta$  of said nozzle to an axis of said body portion and a length of a the

tip affixed to said nozzle, are selected such that said tip does not touch said surface.

Claim 51 (Previously Presented) The handheld pipette as claimed in claim 30, wherein

said body portion has a bottom which is removable at least in part to provide access to the pipette.

Claim 52 (Previously Presented) The handheld pipette as claimed in claim 30 including

an adapter selectively mountable to said body portion, said adapter adjusting the size of the said body portion to better fit operator hand size.

Claim 53 (Previously Presented) The handheld pipette as claimed in claim 30 including

padding on at least a portion of said body portion.

Claim 54 (Currently Amended) The handheld pipette as claimed in claim 30, wherein

portions of said pipette which come in contact with the operator's hand are ~~ergonomically designed~~ shaped to minimize contact pressure for the operator's hand during operation of the pipette.

Claim 55 (Currently Amended) The handheld pipette as claimed in claim 54, wherein

portions of said pipette which come in contact with the operator's hand are ~~ergonomically designed~~ shaped so that contact pressure at no point on said pipette exceeds 14 psi.

Claim 56 (Previously Presented) The handheld pipette as claimed in claim 30, wherein

said nozzle portion extends from a point on an upper section of the said body portion.

Claim 57 (Previously Presented) The handheld pipette as claimed in claim 30, wherein

said body portion is shaped and said nozzle portion is positioned such that when the pipette is held in an operating position, the nozzle portion is at an angle substantially perpendicular to the operator's forearm.

Claim 58 (Previously Presented) The handheld pipette as claimed in claim 31, wherein

$\theta$  is approximately  $70^\circ$  to said long central axis.

Claim 59 (Previously Presented) The handheld pipette as claimed in claim 31, wherein

said nozzle angle  $\theta$  is adjustable.

Claim 60 (Previously Presented) The handheld pipette as claimed in claim 31, wherein

said nozzle angle  $\theta$  is such as to permit at least one of the operator's wrist, elbow and shoulder to be in a substantially neutral position when the pipette is performing a pipetting operation.

Claim 61 (Currently Amended) The handheld pipette as claimed in claim ~~31~~ 80, wherein

said nozzle is designed to have a the tip mounted to the end thereof, and wherein said angle  $\theta$  for the nozzle is such that any tip mounting force is in a direction causing a major component of the force to be applied against and substantially perpendicular to a portion of the operator's hand grasping said body portion which is substantially between a second joint of the operator's fingers and a point slightly behind the operator's knuckles.

Claim 62 (Previously Presented) The handheld pipette as claimed in claim 31 including a hook extending from a point on

said body portion which is sufficiently angularly spaced from the point from which said nozzle extends to permit the hook to fit over a selected portion of the operator's hand when the pipette is being held by the operator in a position for use.

Claim 63 (Previously Presented) The handheld pipette as claimed in claim 62, wherein

said hook is adjustable to change at least one of the angle by which the hook is spaced from the nozzle, the height on the body portion for the point from which the hook extends and the angle of the hook relative to said long central axis.

Claim 64 (Previously Presented) The handheld pipette as claimed in claim 62, wherein

said hook is removably mounted to said body portion, said hook being replaceable with a hook of different size/shape to accommodate at least one of user preferences and different hand sizes.

Claim 65 (Previously Presented) The handheld pipette as claimed in claim 31, wherein

said button is operated in a direction at a selected angle to said nozzle.

Claim 66 (Currently Amended) The handheld pipette as claimed in claim 31, wherein

said button is ~~ergonomically~~ shaped to minimize contact pressure on the operator's hand when the button is operated.

Claim 67 (Currently Amended) The handheld pipette as claimed in claim ~~31~~ 80, including

a button on said body which controls ejection of a the tip from said nozzle, said button being ~~ergonomically~~ shaped to minimize contact pressure on the operator's hand when the button is operated.

Claim 68 (Previously Presented) The handheld pipette as claimed in claim 31, wherein

the position and angle  $\theta$  of the nozzle are such that an end of the nozzle adjacent said body portion is closely adjacent the index finger of the operator when properly held.

Claim 69 (Previously Presented) The handheld pipette as claimed in claim 1, wherein

said body has a stable base permitting said pipette to stand upright on a surface.

Claim 70 (Currently Amended) The handheld pipette as claimed in claim ~~69~~ 78, wherein

pipette parameters, including at least the angle  $\theta$  of said nozzle to an axis of said body portion and a length of a the tip affixed to said nozzle, are selected such that said tip does not touch said surface.

Claim 71 (Previously Presented) The handheld pipette as claimed in claim 31, wherein

said body portion has a bottom which is removable at least in part to provide access to the pipette.

Claim 72 (Previously Presented) The handheld pipette as claimed in claim 31 including

an adapter selectively mountable to said body portion, said adapter adjusting the size of the said body portion to better fit operator hand size.

Claim 73 (Previously Presented) The handheld pipette as claimed in claim 31 including

padding on at least a portion of said body portion.

Claim 74 (Currently Amended) The handheld pipette as claimed in claim 31, wherein

portions of said pipette which come in contact with the operator's hand are ~~ergonomically designed~~ shaped to minimize contact pressure for the operator's hand during operation of the pipette.

Claim 75 (Currently Amended) The handheld pipette as claimed in claim 74, wherein

portions of said pipette which come in contact with the operator's hand are ~~ergonomically designed~~ shaped so that contact pressure at no point on said pipette exceeds 14 psi.

Claim 76 (Previously Presented) The handheld pipette as claimed in claim 31, wherein

said nozzle portion extends from a point on an upper section of the said body portion.

Claim 77 (Previously presented) The handheld pipette as claimed in claim 31, wherein

said body portion is shaped and said nozzle portion is positioned such that when the pipette is held in an operating position, the nozzle portion is at an angle substantially perpendicular to the operator's forearm.



Claim 78 (New) The handheld pipette as claimed in claim 16, further including a pipette tip affixed to the nozzle portion.

Claim 79 (New) The handheld pipette as claimed in claim 30, further including a tip affixed to the nozzle portion.

Claim 80 (New) The handheld pipette as claimed in claim 31, further including a tip affixed to the nozzle portion.

Claim 81 (New) A handheld pipette, comprising:

a body portion having a vertical central axis longer than a horizontal central axis and being shaped to fit in an operator's hand, the body portion including a stable base permitting the pipette to stand upright on a surface;

a nozzle portion extending from a point on an upper section of the body portion and at a downward angle  $\theta$  within a range of approximately  $60^\circ$  to  $80^\circ$  with respect to the vertical central axis;

a tip removably mounted to the nozzle portion, the tip operable for receiving liquid;

a button located on a top of the body portion and operable by a thumb of the operator to effect aspiration and dispensing of the liquid through the tip and to effect aspiration and

dispensing of air through the nozzle portion, the button being aligned with or substantially aligned with the vertical central axis;

a piston member operable for preventing the liquid from entering into the nozzle portion; and

a hook mounted to the body portion and extending from a point at an end or at substantially the end of the upper section of the body portion, the hook being angularly spaced by an angle  $\Phi$  from the point from which the nozzle portion extends, wherein

at least the angle  $\theta$  of the nozzle portion and a length of the tip are selected such that the tip when mounted to the nozzle portion does not touch the surface when the pipette is placed upright on the surface.

Claim 82 (New) The handheld pipette as claimed in claim 81, wherein

the nozzle angle  $\theta$  is adjustable.

Claim 83 (New) The handheld pipette as claimed in claim 81, wherein

the hook is adjustable to change at least one of the angle  $\Phi$ , a height on the body portion for the point from which the

hook extends, and an angle of the hook relative to the vertical central axis.